

AMENDMENTS TO THE CLAIMS

1. (Withdrawn) Method for manufacturing an electromechanical sensor element for converting mechanical forces produced by the movements and vital functions of a person into electric signals, in which method a sensor film (11) is provided with metallic electrodes (15,16) placed on either side of it, at least one of said electrodes being a signal electrode, in which method the sensor element is produced by cutting it off a larger amount of sensor element material, in which method in the manufacture of sensor element material the electrodes are created in a continuous roll-to-roll process, and in which method the sensor element material is produced by laminating as a continuous roll-to-roll process, characterized in that at least the sensor element material consists of repeated electrode patterns (41) and that a sensor element of a desired size and/or shape is formed by cutting the material between the patterns.
2. (Withdrawn) Method as defined in claim 1, characterized in that at least some of the signal electrode patterns have a polygonal shape.
3. (Withdrawn) Method as defined in claim 1, characterized in that at least some of the signal electrode patterns comprise circular shapes.
4. (Withdrawn) Method as defined in claim 1, characterized in that the electrode material mainly consists of aluminum.
5. (Withdrawn) Method as defined in claim 1, characterized in that the metal electrode is provided with a supporting plastic film which is mounted against the sensor film.
6. (Withdrawn) Method as defined in claim 1, characterized in that the sensor film is provided with earth electrodes placed against it on either side, at least one of said earth electrodes being provided with holes, and that a film containing signal electrodes is placed on the next film layer in the area of the holes.
7. (currently amended) Method for manufacturing an electromechanical sensor element for converting mechanical forces produced by the movements and vital functions of a person into

electric signals. in which method a sensor film (11) is provided with film-like metallic electrodes (15,16) on either side of it and a film-like insulating material (12-14) is fitted on the outer surface of at least one of said metallic electrodes in which method the sensor element is produced by cutting it off a larger amount of sensor element material, characterized in that in the manufacture of the sensor element material, the electrodes are created by printing an insulation pattern on the metal film on the surface of the insulator film (12-14) in a continuous roll-to-roll process (31,32) and removing the metallic material from areas outside the pattern by etching as a continuous roll-to-roll process, and that the patterned film and the sensor film are laminated together as a continuous roll-to-roll process.

wherein the sensor film is provided with earth electrodes placed against it on either side, at least one of said earth electrodes being provided with holes, and that a film containing signal electrodes is placed on the next film layer in the area of the holes.

8. (original) Method as defined in claim 7, characterized in that at least some of the signal electrode patterns have a polygonal shape.

9. (original) Method as defined in claim 7, characterized in that at least some of the signal electrode patterns comprise circular shapes.

10. (original) Method as defined in claim 7, characterized in that the electrode material consists of aluminum.

11. (original) Method as defined in claim 7, characterized in that at least part of the aluminum electrode is covered with silver pasta printed on it.

12. (original) Method for manufacturing an electromechanical sensor element for converting mechanical forces produced by the movements and vital functions of a person into electric signals. in which method a sensor film (11) is provided with film-like metallic electrodes (15,16) on either side of it and a film-like insulating material (12-14) is fitted on the outer surface of at least one of said metallic electrodes in which method the sensor element is produced by cutting it off a larger amount of sensor element material, characterized in that in the manufacture of the

sensor element material, the electrodes are created by printing an insulation pattern on the metal film on the surface of the insulator film (12-14) in a continuous roll-to-roll process (31,32) and removing the metallic material from areas outside the pattern by etching as a continuous roll-to-roll process, and that the patterned film and the sensor film are laminated together as a continuous roll-to-roll process.

wherein Method as defined in claim 7, characterized in that the metal electrode comprises a supporting plastic film which is mounted against the sensor film.

13. cancelled.

14. (Withdrawn) Sensor system for monitoring the condition of a person on a planar support (2), said system comprising at least one planar sensor element (3) fitted on the support and having an active sensor film (20) and signal and earth electrodes (30) for converting mechanical forces produced by the movements and vital functions of the person into electric signals, and an interface (4) for connecting the sensor to a monitoring unit, wherein the sensor film (11) is provided with film-like metallic electrodes (15,16) fitted on either side of it, at least one of the metallic electrodes being provided with an insulator film (12,13) fitted on its outer surface, at least one electrode of said sensor element having a patterned design, characterized in that the sensor element has been formed from a cut sensor element material having repeated electrode patterns (41), said electrode patterns being formed from metal.

15. (Withdrawn) Planar sensor element as defined in claim 14, characterized in that at least some of the patterns have a polygonal shape.

16. (Withdrawn) Planar sensor element as defined in claim 14, characterized in that at least some of the patterns comprise circular shapes.

17. (Withdrawn) Planar sensor element as defined in claim 14, characterized in that the signal electrode pattern comprises connecting lobes placed at the edge of the electrode pattern and consisting of thin strips and wider connecting areas at the ends of these.

18. (Withdrawn) Planar sensor element as defined in claim 14, characterized in that the electrode material mainly consists of aluminum.

19. (Withdrawn) Planar sensor element as defined in claim 14, characterized in that the sensor film used consists of electret bubble film which has been previously expanded so that the amount of gas contained in it is at least 50%.

20. (Withdrawn) Planar sensor element as defined in claim 19, characterized in that the electromechanical sensor film used consists of electret bubble film into which a permanent electric charge has been injected in an electric field intensive enough to produce partial discharges inside the film.

21. (Withdrawn) Planar sensor element as defined in claim 20 which has been pre-seasoned so that its sensitivity after the charging has diminished by more than 50%.

22. (Withdrawn) System as defined in claim 14, in which the active electromechanical sensor film is provided with film-like metallic electrodes fitted on either side of it, which electrode patterns have been formed by etching from a metal film, characterized in that the surface material consists of metal other than copper.

23. (Withdrawn) Planar sensor element as defined in claim 14, characterized in that several signal electrodes have been formed in the sensor element, with the result that the same sensor comprises several different areas, each of which can be separately connected to a signal processing apparatus.